State of Nevada – Department Of Personnel

CLASS SPECIFICATION

TITLE	GRADE	EEO-4	CODE
ENGINEERING DRAFTER, SUPERVISING	**34**	**C**	**6.363**
ENGINEERING DRAFTER III	**31**	**C**	**6.370**
ENGINEERING DRAFTER II	**28**	**C**	**6.371**
ENGINEERING DRAFTER I	**25**	**C**	**6.377**

SERIES CONCEPT

Engineering Drafters develop preliminary and final working drawings for the bridge, roadway and traffic design divisions. Drawings are developed from engineering sketches and design notes or from verbal direction received from design engineers by utilizing computer aided drafting design software and/or by using and applying drafting instruments, media and accepted drafting techniques to create plans which may be used by engineers and contractors in highway construction projects or for traffic control; incumbents perform related work as required.

Incumbents determine the amount of detail to be shown on the drawing, the need to enlarge sections for clarity, individual components, i.e., dimensions, text, legend, symbology, and placement of components on the drawing; resolve discrepancies, i.e., difference in elevation between roadway and bridge design, by meeting with design engineers.

Incumbents develop drawings for roadway design to include: title sheets and location sketches to show the location of a project with a specified section of a highway route; typical sections to show a cross-section of a highway to include elements such as the depth of the base and surfaces, road widths, location of curbs and gutters, slope of ditches, etc.; plan and profile sheets for roadway alignment to show centerline and stations, edge of road, drainage pipes, guardrail, curb and gutter, utilities, etc.

Incumbents develop drawings for bridge design to include: cover sheets to layout the limits of the bridge and show the type of bridge, i.e., concrete, timber, or steel; geometric sheets to layout the limits and location of the footings; abutment, wingwall, pier, deck, approach slab and barrier rail sheets to layout limits of concrete, location and size of reinforcement steel; special details to layout and modify detail for unique situations; bent bar sheets to layout bars to show location of bends.

Incumbents develop drawings for the traffic division to include: traffic control sheets which show traffic control devices or detours to move traffic away from hazardous construction areas; striping plan sheets to show precise location of striping lines; sign locations and the type (stop, yield, etc.) to be installed or removed.

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CLASS CONCEPTS

ENGINEERING DRAFTER, SUPERVISING

Under general direction, performs the full range of duties outlined in the series concept and provides supervision to lower level drafters. Supervision involves the assignment and review of work, training of subordinates in the procedures, methods, and standards of the drafting section, and the preparation of performance evaluations.

CLASS CONCEPTS (cont.)

ENGINEERING DRAFTER III

Under direction, performs the full range of the duties outlined in the series concept. This is the journey level for the class.

ENGINEERING DRAFTER II

Under general supervision, at a preparatory level, continues to receive training in the performance of the duties outlined in the series concept.

ENGINEERING DRAFTER I

Under direct supervision, receives training in the performance of all or part of the duties outlined in the series concept. This is the entry level in the series.

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MINIMUM QUALIFICATIONS

ENGINEERING DRAFTER, SUPERVISING

EDUCATION AND EXPERIENCE:

Graduation from high school or equivalent education with five years of progressively responsible engineering drafting experience. Education above the high school level in course work directly related to departmental needs or requirements may be substituted on a year for year basis for up to three years of experience.

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES: (These may be acquired on the job and/or needed to perform the work assigned.)

Working knowledge of Nevada Revised Statutes, department policies and procedures.

Ability to organize material, information and people in a systematic way to optimize efficiency and minimize duplication of effort. Ability to communicate effectively with employees and develop work performance standards. Ability to supervise other drafting personnel and provide direction and training on work assignments. Ability to order and maintain an inventory of supplies.

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES: (Applicants will be screened for possession of these through written, oral, performance or other evaluation procedures.)

General knowledge of performance evaluations and work performance standards.

Ability to draft details for bridge design (including abutments, wingwalls, piers, and decks). Ability to make independent decisions when developing detailed drawings (including appropriate scales, line weights, necessary sections and enhancements needed to clarify drawings). Ability to establish and maintain cooperative working relationships with design engineers.

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MINIMUM QUALIFICATIONS (cont.)

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES: (cont.)

In addition, all the knowledge, skills and abilities required at the lower levels in the series.

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ENGINEERING DRAFTER III

EDUCATION AND EXPERIENCE:

Graduation from high school or equivalent education with four years of progressively responsible engineering drafting experience. Education above the high school level in course work directly related to departmental needs or requirements may be substituted on a year for year basis for up to two years of experience.

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES: (These may be acquired on the job and/or needed to perform the work assigned.)

Ability to draft details for bridge design (including abutments, wingwalls, piers, and decks). Ability to make independent decisions when developing detailed drawings (including appropriate scales, line weights, necessary sections and enhancements needed to clarify drawings). Ability to establish and maintain cooperative working relationships with design engineers.

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES: (Applicants will be screened for possession of these through written, oral, performance or other evaluation procedures.)

Detailed knowledge of principles of engineering drafting methods, nomenclature, conventional symbols and equipment.

Ability to apply various mathematical formulas utilizing the principles of algebra, geometry and trigonometry to make engineering calculations. Ability to read, interpret and translate field notes and design notes to neat, legible and accurate drawings. Ability to layout new alignments for roadway design. Ability to draft complex special details with multiple components for roadway design. Ability to draft details for bridge design (including front sheets, geometric sheets, deck contour sheets, prestressing sheets, camber diagram, barrier rail sheets, approach slab sheets and bent bar sheets).

In addition, all the knowledge, skills and abilities required at the lower levels in the series.

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ENGINEERING DRAFTER II

EDUCATION AND EXPERIENCE:

Graduation from high school or equivalent education with two years of progressively responsible engineering drafting experience. Education above the high school level in course work directly related to departmental needs may be substituted on a year for year basis for up to one year of experience.

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MINIMUM QUALIFICATIONS (cont.)

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES: (These may be acquired on the job and/or needed to perform the work assigned.)

Detailed knowledge of principles of engineering drafting methods, nomenclature, conventional symbols and equipment.

Ability to apply various mathematical formulas utilizing the principles of algebra, geometry and trigonometry to make engineering calculations. Ability to read, interpret and translate field notes and design notes to neat, legible and accurate drawings. Ability to layout new alignments for roadway design. Ability to draft complex special details with multiple components for roadway design. Ability to draft details for bridge design (including front sheets, geometric sheets, deck contour sheets, prestressing sheets, camber diagram, barrier rail sheets, approach slab sheets and bent bar sheets).

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES: (Applicants will be screened for possession of these through written, oral, performance or other evaluation procedures.)

Working knowledge of principles of engineering drafting methods, nomenclature, conventional symbols and equipment. General knowledge of personal computers and computer aided drafting design software. Working knowledge of principles of engineering drafting methods, nomenclature, conventional symbols, sources of information and equipment. Working knowledge of chart, graph and table formatting. Working knowledge of where to go within the organization and ability to judge what information should be put on contract plans.

Ability to interpret plans, specifications, maps, charts, diagrams and traverse sheets. Ability to perform a variety of tasks often changing from one to another. Ability to draft title sheets, location sketches, section of improvements, plan and profile sheets (including ditch notes and balance quantities), geometric sheets, moderately difficult special detail sheets (including drop inlets, riprap basins, curb and gutter and manholes, etc.), traffic control sheets, stripping sheets, signing sheets (including location, removal and sign detail sheets), boring logs, landscape sheets, railroad sheets, standard sheets and misc. sheets, i.e. exhibit drawings for legal department.

In addition, all the knowledge, skills and abilities required at the lower levels in the series.

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ENGINEERING DRAFTER I

EDUCATION AND EXPERIENCE:

Graduation from high school or equivalent education with two years of high school level course work in engineering drafting. Six months of engineering drafting experience may be substituted for the course work.

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MINIMUM QUALIFICATIONS (cont.)

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES: (These may be acquired on the job and/or needed to perform the work assigned.)

Working knowledge of principles of engineering drafting methods, nomenclature, conventional symbols, sources of information and equipment. General knowledge of personal computers and computer aided drafting design software. Working knowledge of chart, graph and table formatting. Working knowledge of where to go within the organization for needed information and ability to judge what information should be put on contract documents.

Ability to interpret plans, specifications, maps, charts and diagrams and traverse sheets. Ability to perform a variety of tasks often changing from one to another. Ability to work with frequent interruptions. Ability to draft title sheets, location sketches, section of improvements, plan and profile and profile sheets (including ditch notes and balance quantities), geometric sheets, moderately difficult special detail sheets (including drop inlets, riprap basins, curb and gutter and manholes, etc.), traffic control sheets, stripping sheets, signing sheets (including location, removal and sign detail sheets), boring logs, landscape sheets, railroad sheets, standard sheets and misc. sheets, i.e. exhibit drawings for legal department.

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES: (Applicants will be screened for possession of these through written, oral, performance or other evaluation procedures.)

General knowledge of math, including algebra, geometry and trigonometry. General knowledge of principles of engineering drafting methods, nomenclature, conventional symbols, sources of information and equipment.

Ability to establish and maintain cooperative working relationships with co-workers to exchange ideas, information and opinions with others to formulate drawings and sketches. Ability to prepare drawings using a drafting machine, mechanical lettering devices, various templates, triangles, curves, architects scale, engineers scale, metric scale and other commonly accepted drafting equipment. Ability to follow oral and written instructions. Ability to work with frequent interruptions.

This class specification is used for classification, recruitment and examination purposes. It is not to be considered a substitute for work performance standards for positions assigned to this class.

	6.363	6.370	6.371	6.377
ESTABLISHED:	7/1/93P	7/1/93P	7/1/93P	7/1/93P
	8/31/92PC	8/31/92PC	8/31/92PC	8/31/92PC